**The Evolution Of Cellular Life** (p. 258 – 263)

**I. The Evolution Of Prokaryotes**

 **1. How old are the oldest known fossils?**

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **2. Match the following types of bacteria with the correct definitions.**

 1. \_\_\_\_\_\_\_\_ Cyanobacteria A. Photosynthetic; Released oxygen into air

 2. \_\_\_\_\_\_\_\_ Eubacteria B. Lack peptidoglycan in cell walls; Changed little

 3. \_\_\_\_\_\_\_\_ Archaebacteria C. Contain peptidoglycan in cell walls; Cause disease

 **3. Archaebacteria and eubacteria diverged early on during Earth’s development.**

 Circle One : True False

 **4. Complete the flow chart of prokaryotic evolution.** (Not in the book.)

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - lived in the absence of oxygen

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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - photosynthetic bacteria; ↑ O2 levels

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 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - required oxygen to survive

**II. The Evolution Of Eukaryotes**

 **1. How long ago did the first eukaryotes appear on Earth?**

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 **2. Define the term endosymbiosis.**

 Endosymbiosis –

 **3. Explain how endosymbiosis occurred.**

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 **4. List four observations that support the endosymbiosis hypothesis.**

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**III. Multicellularity**

 **1. Define the term protists.**

 Protists –

 **2.** **How long ago did the first multicellular organisms appear on Earth?**

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **3. Which three kingdoms evolved from protists?**

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **4. What is the Cambrian Explosion?**

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 **5. What organism dominated the seas during the Ordovician Period?**

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**IV. Mass Extinctions**

 **1. Define the term mass extinction.**

 Mass Extinction –

 **2. How long ago did known mass extinctions occur on Earth?**

 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ million years ago

 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ million years ago

 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ million years ago

 4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ million years ago

 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ million years ago

 **3. What is believed to cause mass extinctions?**

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 **4. How is human activity currently causing a mass extinction?**

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